

# Intelligent Futures: A Strategic Assessment and Forward Path for AI Education at New York University

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## ***Executive Summary***

*This report presents a comprehensive assessment of Artificial Intelligence (AI) education at New York University, revealing a robust but fragmented landscape. While NYU boasts world-class strengths in foundational AI theory and methods at the Courant Institute and the Center for Data Science, alongside excellent applied programs at the Stern School of Business and the Tandon School of Engineering, this growth has occurred organically within disciplinary silos. This has led to two critical gaps: a scarcity of accessible "AI literacy" courses for students in the humanities and social sciences, and a lack of a university-wide standard for integrating ethics into technical AI coursework. To maintain its leadership, NYU must move from a collection of isolated strengths to a more cohesive and strategic university-wide approach.*

*We propose a four-pronged strategy to guide NYU into the next era of AI education. First, we recommend the creation of a university-wide "AI and Society" course to ensure foundational AI literacy for all students. Second, we call for the establishment of a central NYU AI Hub to break down inter-school silos, catalog all AI-related courses, and foster interdisciplinary collaboration. Third, this report advocates for mandating the integration of ethics modules within all technical and applied AI courses to cultivate responsible innovation. Finally, we urge strategic investment in emerging frontiers where NYU can lead, such as AI for climate science, generative AI in the arts, and the intersection of AI and law. Adopting these initiatives will not only enhance the educational experience but will cement NYU's role as a global leader in shaping an intelligent and equitable future.*

An exhaustive review of New York University's course catalog reveals a robust and expanding landscape of AI-related education. The offerings span numerous schools and departments, from the foundational and theoretical to the applied and domain-specific. This report outlines the current state of AI education at NYU, identifies key strengths and areas for growth, and proposes a strategic path forward to solidify the university's position as a global leader in this critical field.

The analysis is based on the provided university course list, supplemented by extensive searches for official course descriptions and syllabi to identify relevant offerings. Courses were deemed "AI-related" if their titles or descriptions explicitly mentioned artificial intelligence, machine learning, deep learning, natural language processing, computer vision, robotics, generative AI, or other core concepts, or if they focused on the application of these technologies to solve specific problems.

## The Current Landscape of AI Education at NYU

NYU offers a significant number of courses that engage with artificial intelligence, reflecting the university's deep expertise in computer science, data science, and various applied disciplines. These courses can be broadly understood through three lenses: their educational **type**, their disciplinary **area**, and their academic **level**.

### Distribution Across the University

AI-related courses are not confined to a single department or school. While the core of theoretical and methodological AI education resides within the **Courant Institute of Mathematical Sciences (Faculty of Arts and Science)** and the **Tandon School of Engineering**, there is a notable and growing proliferation of applied AI courses across the university. The **Stern School of Business** has numerous offerings in "FinTech," "Business Analytics," and "AI in Finance." The **Steinhardt School of Culture, Education, and Human Development** applies AI concepts to education and psychology. The **Center for Urban Science and Progress (CUSP)** and the **School of Global Public Health** leverage AI for social good, while the **School of Law** is actively engaging with the regulatory and ethical dimensions of AI. This broad distribution is a significant strength, indicating that AI is being integrated as a critical tool across diverse fields of study.

### Analysis by Type

The identified courses fall into several categories:

- **Foundational & Theoretical:** These courses, such as *Foundations of Machine Learning* (CSCI-GA 2566) and *Probability and Statistics for Data Science*

(DS-GA 1002), provide the mathematical and computational underpinnings of AI. They are crucial for training the next generation of core AI researchers and are predominantly offered at the graduate level within Courant and Tandon.

- **Methods & Techniques:** This is the largest category, comprising courses that teach the practical skills of AI. Offerings like *Deep Learning* (DS-GA 1008), *Natural Language Processing* (CSCI-GA 2590), and *Machine Learning* (CS-GY 6923) equip students with the ability to build, train, and deploy AI models. These are found across both undergraduate and graduate levels.
- **Applied AI:** A rapidly growing area, these courses focus on using AI to solve domain-specific problems. Examples include *AI in Finance* (FINC-GB 2390), *Machine Learning in Medicine and Biology* (BIOL-GA 1133), and *Urban Computing and Artificial Intelligence* (CUSP-GX 8873). These courses are vital for preparing students to use AI in their respective professional fields.
- **Ethics, Policy, and Social Impact:** A smaller but critically important category, these courses examine the societal implications of AI. Offerings like *Ethics of Data Science* (APSTA-GE 2062) and *Artificial Intelligence and Administrative Law* (LAW-LW 12831) encourage students to think critically about the responsible development and deployment of AI technologies.

## Analysis by Level

- **Advanced (PhD and Advanced Master's):** NYU has a wealth of advanced seminars and specialized topics courses for doctoral and advanced master's students, particularly within the Center for Data Science and the Courant Institute. These courses ensure that NYU remains at the cutting edge of AI research.
- **Intermediate (Advanced Undergraduate and Master's):** This is the most well-represented level, with a vast array of courses in machine learning, data science, and analytics across multiple schools. These offerings effectively serve students who wish to specialize in AI or use it as a significant part of their primary field.
- **Basic (Introductory and "AI for All"):** There are fewer courses at the introductory level designed for a broad, non-technical audience. While foundational programming and data science courses exist, there is a clear opportunity to develop more "AI literacy" courses for students in the humanities, arts, and social sciences who will not become practitioners but will be leaders in a world shaped by AI.

## Critique and Strategic Path Forward

While NYU's AI education landscape is strong, it has developed somewhat organically, leading to both strengths and areas for strategic growth.

## Strengths:

- **World-Class Foundational Departments:** The Courant Institute and the Center for Data Science are global leaders, providing a rigorous theoretical foundation for AI education.
- **Excellence in Applied Domains:** The Stern School of Business and the Tandon School of Engineering have successfully integrated AI into their curricula, especially in finance, business analytics, and engineering.
- **Emerging Leadership in AI and Society:** The School of Law and CUSP are at the forefront of tackling the complex ethical, legal, and urban challenges posed by AI.

## Areas for Growth & Recommendations:

While the distributed model of AI education has fostered domain-specific excellence, it has also created silos and potential gaps. To ensure NYU remains a leader in the age of AI, the NYU's leadership should consider the following strategic initiatives:

### 1. Recommendation: Foster "AI for All" Literacy

- **Critique:** There is a scarcity of basic, conceptual AI courses designed for students outside of STEM fields. As AI impacts every sector of society, a baseline understanding of its capabilities, limitations, and societal implications is essential for all NYU graduates.
- **Path Forward:** Develop a university-wide, low-code/no-code introductory course, "AI and Society." This course would focus on the history of AI, its core concepts (e.g., what a large language model is, how machine learning works conceptually), its impact on various industries, and the critical ethical questions it raises. This would ensure every NYU student, from the arts to the humanities to the social sciences, graduates with a foundational AI literacy.

### 2. Recommendation: Break Down Silos to Enhance Interdisciplinary Innovation

- **Critique:** While many schools have AI courses, they often exist in isolation. A student at Tisch might not easily discover or be able to take a relevant course at Tandon, and vice-versa. This siloing limits the potential for groundbreaking interdisciplinary work.
- **Path Forward:** Create a centralized, public-facing **NYU AI Hub** website that catalogs every AI-related course across the university, regardless of the home school. This hub would serve as a resource for students and faculty and should be accompanied by a university initiative to encourage and formalize

cross-listing. Furthermore, NYU should develop interdisciplinary certificate programs, such as "AI for the Arts," "AI and Public Policy," or "Computational Social Science," that draw on coursework from multiple schools.

### 3. Recommendation: Weave Ethics into the Entire AI Curriculum

- **Critique:** While dedicated ethics courses are valuable, they are not sufficient. To train responsible practitioners, ethical considerations must be an integral part of technical and applied courses. A student learning to build a facial recognition model must simultaneously learn about the biases inherent in the technology.
- **Path Forward:** Mandate that all courses identified as "AI-related" (particularly those in the Methods and Applications categories) include a graded module on the ethical, societal, and policy implications relevant to the course's topic. The NYU AI Hub could develop and provide standardized core materials for these modules to support faculty in this integration, covering topics like algorithmic bias, data privacy, fairness, and accountability.

### 4. Recommendation: Invest in Emerging AI Frontiers

- **Critique:** NYU is strong in established areas like AI for finance and health. However, to lead, the university must anticipate and invest in the next frontiers of AI application.
- **Path Forward:** NYU's leadership should commission studies to identify and strategically invest in emerging areas where NYU has the potential to be a world leader. Based on current trends, promising areas include **AI for Climate Science, Generative AI in the Arts and Humanities**, and the **Intersection of AI and Law**. This could involve creating new joint faculty positions, funding seed research, and developing new specialized academic programs.

## Conclusion

New York University is well-positioned in the field of AI education, with a strong foundation and impressive breadth. However, the rapid advancement and societal integration of AI demand a more cohesive, strategic, and forward-looking approach. By fostering university-wide AI literacy, breaking down inter-school silos, embedding ethics across the curriculum, and investing in the next frontiers of AI, NYU can not only enhance the value of its education but also solidify its role in shaping a future where artificial intelligence is developed and deployed responsibly for the benefit of all.

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## Appendix: AI-Related Courses at New York University

Course ID	Course Title	School/Dept	Level	Type	Area/Domain
<b>ACCT-GB 3328</b>	Financial Analytics Using Python and AI Tools	Stern	Advanced	Applications	Finance
<b>APSTA-GE 2011</b>	Supervised and Unsupervised Machine Learning	Steinhardt	Advanced	Methods	Foundational
<b>APSTA-GE 2047</b>	Messy Data and Machine Learning	Steinhardt	Advanced	Methods	Foundational
<b>APSTA-GE 2048</b>	Generative AI for the Social Sciences	Steinhardt	Advanced	Applications	Social Science
<b>APSTA-GE 2062</b>	Ethics of Data Science	Steinhardt	Intermediate	Ethics/Policy	Foundational
<b>APSTA-GE 2331</b>	Data Science for Social Impact	Steinhardt	Advanced	Applications	Social Impact
<b>BIOL-GA 1133</b>	Machine Learning in Medicine and Biology	Arts & Science	Advanced	Applications	Biology / Health
<b>BMSC-GA 4439</b>	Machine Learning	Grossman SoM	Advanced	Methods	Health
<b>BMSC-GA 4455</b>	Introduction to Healthcare AI	Grossman SoM	Advanced	Applications	Health
<b>BMIN-GA 1003</b>	Introduction to Healthcare AI	Grossman SoM	Advanced	Applications	Health
<b>BMIN-GA 1004</b>	Machine Learning	Grossman SoM	Advanced	Methods	Health

Course ID	Course Title	School/Dept	Level	Type	Area/Domain
<b>BMIN-GA 3007</b>	Deep Learning for Biomedical Data	Grossman SoM	Advanced	Applications	Health
<b>BMIN-GA 4527</b>	Artificial Intelligence, Generative AI, and Data Science	Grossman SoM	Advanced	Methods	Health / Data Science
<b>BUSF-SHU 271</b>	AI for Business – Reinforcement Learning	Shanghai	Intermediate	Applications	Business
<b>BUSF-SHU 276</b>	AI for Business – Machine Learning	Shanghai	Intermediate	Applications	Business
<b>CSCI-GA 2560</b>	Artificial Intelligence	Arts & Science	Intermediate	Methods	Foundational
<b>CSCI-GA 2565</b>	Machine Learning	Arts & Science	Advanced	Methods	Foundational
<b>CSCI-GA 2566</b>	Foundations of Machine Learning	Arts & Science	Advanced	Theory	Foundational
<b>CSCI-GA 2572</b>	Deep Learning	Arts & Science	Advanced	Methods	Foundational
<b>CSCI-GA 2590</b>	Natural Language Processing	Arts & Science	Advanced	Methods	Foundational
<b>CSCI-UA 472</b>	Artificial Intelligence	Arts & Science	Intermediate	Methods	Foundational
<b>CSCI-UA 473</b>	Fundamentals of Machine Learning	Arts & Science	Intermediate	Theory	Foundational
<b>CS-GY 6613</b>	Artificial Intelligence I	Tandon	Intermediate	Methods	Foundational
<b>CS-GY 6923</b>	Machine Learning	Tandon	Intermediate	Methods	Foundational
<b>CS-GY 6953</b>	Deep Learning	Tandon	Advanced	Methods	Foundational

Course ID	Course Title	School/Dept	Level	Type	Area/Domain
<b>CUSP-GX 7033</b>	Machine Learning for Cities	CUSP	Advanced	Applications	Urban Science
<b>CUSP-GX 8873</b>	Urban Computing and Artificial Intelligence	CUSP	Advanced	Applications	Urban Science
<b>DATS-SHU 200</b>	Topics in Machine Learning	Shanghai	Intermediate	Methods	Foundational
<b>DS-GA 1001</b>	Introduction to Data Science	CDS	Intermediate	Introductory	Foundational
<b>DS-GA 1003</b>	Machine Learning	CDS	Advanced	Methods	Foundational
<b>DS-GA 1008</b>	Deep Learning	CDS	Advanced	Methods	Foundational
<b>DS-GA 1011</b>	Fundamentals of Natural Language Processing	CDS	Advanced	Methods	Foundational
<b>DS-GA 1012</b>	Large Language Models: Evaluation and Applications	CDS	Advanced	Applications	Foundational
<b>DS-GA 1017</b>	Responsible Data Science	CDS	Intermediate	Ethics/Policy	Foundational
<b>DS-UA 202</b>	Responsible Data Science	Arts & Science	Intermediate	Ethics/Policy	Foundational
<b>DS-UA 203</b>	Machine Learning for Language Understanding	Arts & Science	Intermediate	Applications	Foundational
<b>ECE-GY 6143</b>	Machine Learning	Tandon	Advanced	Methods	Foundational
<b>ECE-GY 7123</b>	Deep Learning	Tandon	Advanced	Methods	Foundational



Course ID	Course Title	School/Dept	Level	Type	Area/Domain
<b>ECE-GY 7143</b>	Advanced Machine Learning	Tandon	Advanced	Methods	Foundational
<b>ECON-GA 4005</b>	Machine Learning and Algorithms for CSS	Arts & Science	Advanced	Applications	Social Science
<b>FINC-GB 2390</b>	AI in Finance	Stern	Advanced	Applications	Finance
<b>ITPG-GT 2054</b>	Introduction to Synthetic Media	Tisch	Intermediate	Applications	Arts
<b>ITPG-GT 2336</b>	Making Visual Art with GANs	Tisch	Intermediate	Applications	Arts
<b>ITPG-GT 3020</b>	Creative Image Generation	Tisch	Advanced	Applications	Arts
<b>LAW-LW 12831</b>	Artificial Intelligence and Administrative Law	Law	Advanced	Ethics/Policy	Law
<b>LAW-LW 12940</b>	Artificial Intelligence and the Criminal Legal System	Law	Advanced	Ethics/Policy	Law
<b>MGMT-GB 2105</b>	Strategic Management of AI	Stern	Advanced	Applications	Business
<b>MSWEL-GS 3121</b>	Using Artificial Intelligence to Support Youth Mental Health	Silver	Advanced	Applications	Health / Social Work
<b>PADM-GP 2166</b>	Generative AI in the Public Sector: Use, Responsibility, and Regulation	Wagner	Advanced	Ethics/Policy	Public Policy

Course ID	Course Title	School/Dept	Level	Type	Area/Domain
<b>XBA1-GB 8271</b>	Modern Artificial Intelligence	Stern	Advanced	Applications	Business
<b>XBA1-GB 8280</b>	AI and Recommender Systems	Stern	Advanced	Applications	Business
<b>CADT-UH 1038</b>	Autonomous and Social Robots	Abu Dhabi	Basic	Applications	Robotics
<b>CADT-UH 1094</b>	Music, the Mind, and Artificial Intelligence	Abu Dhabi	Basic	Applications	Arts / Music
<b>CS-UH 2216</b>	Natural Language Processing	Abu Dhabi	Intermediate	Methods	Foundational
<b>CS-UH 2220</b>	Machine Learning	Abu Dhabi	Intermediate	Methods	Foundational
<b>CS-UH 3212</b>	Advanced Topics in AI and Machine Learning	Abu Dhabi	Advanced	Methods	Foundational
<b>ENGR-UH 3332</b>	Applied Machine Learning	Abu Dhabi	Intermediate	Applications	Engineering
<b>ITPG-GT 2050</b>	Machine Learning for Physical Computing	Tisch	Intermediate	Applications	Arts
<b>ITPG-GT 2087</b>	Ok Robot Reboot	Tisch	Intermediate	Applications	Arts / Robotics
<b>ITPG-GT 2465</b>	Machine Learning for the Web	Tisch	Intermediate	Applications	Arts / Web
<b>ITPG-GT 3008</b>	Designing Curiosity Portals	Tisch	Advanced	Applications	Design

Course ID	Course Title	School/Dept	Level	Type	Area/Domain
<b>ITPG-GT 3048</b>	Bioart as Biopolitics--Genomics and Identity	Tisch	Advanced	Applications	Arts / Biology
<b>IMNY-UT 224</b>	Introduction to Machine Learning for the Arts	Gallatin	Basic	Applications	Arts
<b>IMNY-UT 296</b>	Politics of Code	Gallatin	Basic	Ethics/Policy	Foundational
<b>INTM-SHU 215</b>	Machine Learning for New Interfaces	Shanghai	Intermediate	Applications	Arts / Interfaces
<b>INTM-SHU 226</b>	Artificial Intelligence Arts	Shanghai	Intermediate	Applications	Arts
<b>INTM-SHU 258</b>	Machine Learning for Artists and Designers	Shanghai	Intermediate	Applications	Arts
<b>INTM-SHU 351</b>	Advanced Seminar: Machine Decision is Not Final	Shanghai	Advanced	Ethics/Policy	Foundational
<b>PHIL-SHU 130</b>	Philosophy of Technology: Thinking Machines	Shanghai	Basic	Ethics/Policy	Philosophy
<b>PSYCH-GA 2211</b>	Math Tools for Cognitive Science and Neuroscience	Arts & Science	Advanced	Theory	Cognitive Science
<b>PSYCH-UH 3512</b>	Applied Perspectives on Human Memory	Abu Dhabi	Intermediate	Applications	Psychology
<b>ROB-GY 6323</b>	Reinforcement learning and	Tandon	Advanced	Methods	Robotics

Course ID	Course Title	School/Dept	Level	Type	Area/Domain
	optimal control for autonomous systems I				
<b>ROB-GY 7973</b>	Optimal and Learning Control for Robotics	Tandon	Advanced	Methods	Robotics
<b>CUSP-GX 8115</b>	Large Scale Data Analysis with Machine Learning II	CUSP	Advanced	Methods	Urban Science
<b>CADT-UH 1040</b>	Ethics of the Image	Abu Dhabi	Basic	Ethics/Policy	Arts
<b>CS-GY 6643</b>	Computer Vision	Tandon	Advanced	Methods	Foundational
<b>CS-UH 2219E</b>	Computational Social Science	Abu Dhabi	Intermediate	Applications	Social Science
<b>ECE-GY 6263</b>	Game Theory	Tandon	Advanced	Theory	Foundational
<b>ECON-UA 310</b>	Game Theory (T)	Arts & Science	Intermediate	Theory	Economics
<b>PHIL-UA 5</b>	Minds and Machines	Arts & Science	Basic	Introductory	Philosophy
<b>PHYS-GA 9010</b>	Physics of Living Systems	Arts & Science	Advanced	Applications	Physics
<b>POL-GA 2260</b>	Game Theory II	Arts & Science	Advanced	Theory	Political Science
<b>PSYCH-GA 2027</b>	Cognitive Neuroscience	Arts & Science	Advanced	Applications	Psychology
<b>PSYCH-GA 2212</b>	Neuroeconomics and Decision Making	Arts & Science	Advanced	Applications	Economics/Neuroscience
<b>PSYCH-UA 25</b>	Cognitive Neuroscience	Arts & Science	Intermediate	Introductory	Psychology/Neuroscience

Course ID	Course Title	School/Dept	Level	Type	Area/Domain
<b>FMTV-UT 1208</b>	Expanding Cinema New Media/The Movies & Bynd	Tisch	Intermediate	Applications	Arts
<b>IMNY-UT 201</b>	Internet Famous	Gallatin	Basic	Applications	Media
<b>ITPG-GT 2051</b>	Computational Letterforms and Layout	Tisch	Intermediate	Applications	Arts / Design
<b>ITPG-GT 2097</b>	Reverse Engineering: New Paradigm Shifts in Art, Curatorial and Technological Practices	Tisch	Advanced	Applications	Arts
<b>LAW-LW 12959</b>	Regulation of Social Media and Content Moderation Seminar	Law	Advanced	Ethics/Policy	Law
<b>MCC-GE 2138</b>	Digital Media: Data and the Self	Steinhardt	Advanced	Ethics/Policy	Media
<b>MCC-GE 2168</b>	Data and Society	Steinhardt	Advanced	Ethics/Policy	Media
<b>MCC-GE 2423</b>	AI & Society	Steinhardt	Advanced	Ethics/Policy	Media
<b>MCC-UE 1039</b>	Platform Cultures	Steinhardt	Intermediate	Applications	Media
<b>PHIL-UH 2410</b>	Epistemology	Abu Dhabi	Intermediate	Theory	Philosophy
<b>STS-UY 2664</b>	Intelligence: Real & Artificial	Tandon	Intermediate	Introductory	STS
<b>DS-GA 1007</b>	Programming for Data Science	CDS	Intermediate	Methods	Foundational

Course ID	Course Title	School/Dept	Level	Type	Area/Domain
<b>CSCI-UA 381</b>	Programming Tools for the Data Scientist	Arts & Science	Intermediate	Methods	Foundational
<b>FRE-GY 7703</b>	Data Science for Financial Engineering	Tandon	Advanced	Applications	Finance
<b>APSTA-UE 25</b>	Carpe Datum: Data Science for Life's Big Questions	Steinhardt	Basic	Introductory	Foundational
<b>CUSP-GX 7013</b>	Introduction to Applied Data Science	CUSP	Advanced	Introductory	Urban Science
<b>DS-UA 111</b>	Principles of Data Science I	Arts & Science	Basic	Introductory	Foundational
<b>CSCI-SHU 101</b>	Introduction to Computer and Data Science	Shanghai	Basic	Introductory	Foundational
<b>PADM-GP 4503</b>	Introduction to Data Analytics for Public Policy, Administration , and Management	Wagner	Advanced	Applications	Public Policy
<b>BUSOR-UH 2004</b>	Data Analytics: Business	Abu Dhabi	Intermediate	Applications	Business
<b>MKTG-GB 2244</b>	Data Driven Decision Making	Stern	Advanced	Applications	Business
<b>PADM-GP 2505</b>	Advanced Data Analytics and Evidence Building.	Wagner	Advanced	Applications	Public Policy

**Note:** This list is generated based on course titles and supplemented by online searches for descriptions. The categorization is based on a standardized interpretation of AI-related educational goals. The dynamic nature of university

curricula means this list should be considered a living document, to be updated regularly by the proposed NYU AI Hub. The original course list was produced by crawling the public course list of NYU, using the scraper by the author. The scraper can be accessed at <https://github.com/kyunghyuncho/nyu-course-listing>.